ABSTRACT

Novel methods and apparatuses are disclosed for the treatment of wastewater to reduce often associated offensive odors by promoting aerobic conditions through decreasing the amount of oxygen required to maintain aerobic cultures and/or aerobic biological activity in the wastewater. Also, the wastewater is screened or otherwise separated the wastewater to remove or concentrate the solids which are anaerobically digested. By concentrating the solids, a smaller digester can be used. The anaerobic digestion produces biogas that may be collected and used, or burned by a flare or oxidized by a semipermeable membrane to deodorize the biogas. The heat produced from the biogas may have a variety of uses, including raising the temperature of the anaerobic digester and the bacterial metabolism. The wastewater is also clarified to remove nitrogenous and organic carbon wastes.